

REMARKS

Claims 1-11 and 13-17 are pending. Favorable consideration is requested.

Claims 1 and 2 have been amended to specify that the heating temperature of the heating step is determined so as to selectively introduce hydroxyl groups into the ethylene- α -olefin copolymer without causing cross-linking and degradation of the ethylene- α -olefin copolymer. Support for this feature can be found in the specification, e.g., at lines 2 to 18 of page 13, lines 16 to 27 of page 16, and lines 5 to 14 of page 20.

In addition, claim 2 has been amended with a comma to clarify that the required “0.1 to 20 parts by weight” applies only to the peroxide having a hydroperoxy group. Support for this amendment is found in the specification, e.g., at lines 21-23 of page 8. The amount of the radical generator is defined in the phrase “not more than 1 mole of the radical generating groups are present with respect to 1 mole of the hydroperoxy groups,” as set forth in the claim and specification.

No new matter has been added by way of the claim amendments.

Claims 2-9 and 17 stand rejected under Section 112, second paragraph. The foregoing “comma” amendment and remarks with respect to claim 2 render moot the Section 112 rejection of claims 2-9 and 17.

Before turning to the prior art rejections, applicant notes that the claimed method requires the use of hydroxyl groups that are selectively introduced into the ethylene- α -olefin copolymer without causing cross-linking and degradation of the ethylene- α -olefin copolymer. This beneficially yields a hydroxyl-modified ethylene- α -olefin copolymer having a Mooney viscosity that is almost the same as that of the starting material because the heating causes neither cross-

linking nor degradation of the ethylene- α -olefin copolymer (the starting material). The prior art does not disclose or suggest at least these features of the claimed invention.

Claims 1, 8-10 and 13-16 stand rejected under 35 U.S.C. 102(b) as allegedly anticipated by Stemke (U.S. Patent 4,891,146). In addition, claims 2-3, 5-9 and 17 stand rejected under 35 U.S.C. 103(a) as allegedly being obvious over Stemke. Applicant requests the withdrawal of these rejections in view of the foregoing amendments and the following remarks.

Stemke is not directed to a method for selectively introducing hydroxyl groups (-OH) into an ethylene- α -olefin copolymer. Instead, Stemke is directed to a method for introducing an excess of carboxylic acid groups (-COOH) over hydroxyl groups. See Stemke at column 2, lines 56 to 61. This is quite different than, and teaches away from, the claimed invention. Thus, Stemke does not anticipate or render obvious the claimed invention.

Claims 2-3, 5-9 and 17 stand rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Tanaglia (EP 1013673). Applicant requests the withdrawal of this rejection in view of the foregoing amendments and the following remarks.

Tanaglia is not directed to a method for selectively introducing hydroxyl groups (-OH) into an ethylene- α -olefin copolymer without causing cross-linking and degradation of the ethylene- α -olefin copolymer. Rather, Tanaglia teaches a hydroperoxide treatment that reduces the molecular weight of an ethylene- α -olefin copolymer. That is, Tanaglia teaches decomposition of an ethylene- α -olefin copolymer. See Tanaglia at paragraphs [0001], [0003], [0004], Table 1, etc. This is quite different than (and actually teaches away from) the claimed invention. Thus, Tanaglia does not anticipate the claimed invention.

Claims 1, 8-10 and 13-16 stand rejected under 35 U.S.C. 103(a) as allegedly being obvious over Kinoshita (U.S. Patent 4,943,658). Applicant respectfully requests the withdrawal of this rejection in view of the foregoing amendments and the following remarks.

Kinoshita does not teach a method for selectively introducing hydroxyl groups (-OH) into an ethylene- α -olefin copolymer. Instead, Kinoshita teaches a heat treatment that introduces an excess of carbonyl groups including oxycarbonyl groups over hydroxyl groups. See the tables of Examples 1 and 2 in Kinoshita. This teaches away from the claimed invention.

In addition, Kinoshita does not teach a heating step without causing cross-linking and degradation of an ethylene- α -olefin copolymer. Rather, the heat treatment of Kinoshita causes decomposition of an ethylene- α -olefin copolymer and lowers the molecular weight of the ethylene- α -olefin copolymer. In fact, in Example 1, the number average molecular weight is lowered from 1000 to 940. In Example 2, the number average molecular weight is lowed from 1240 to 1130. Again, this teaches away from the claimed invention. Thus, Kinoshita does not render obvious the claimed invention.

Claims 1, 8-11 and 13-16 stand rejected under 35 U.S.C. 103(a) as allegedly being obvious over Funaki (U.S. Published Application 10020119319). Applicant requests the withdrawal of this rejection in view of the foregoing amendments and the following remarks.

Funaki does not suggest heating a mixture containing a peroxide having a hydroperoxy group and an ethylene- α -olefin copolymer at a temperature not higher than the 1-minute half-life temperature of the peroxide having a hydroperoxy group. Rather, Funaki teaches heating a mixture containing a peroxide at a temperature higher than the 1-minute half-life temperature of the peroxide. See Examples 3 and 7. There would be no motivation to change the heating

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temperature of Funaki to the claimed range because doing so would be contrary to the teachings of Funaki. Thus, Funaki does not render obvious the claimed invention.

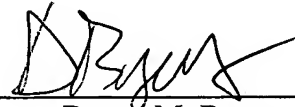
In view of the foregoing amendments and remarks, applicant submits that this application is in condition for allowance. A notice to that effect is earnestly solicited.

If the examiner has any questions concerning this application, the undersigned may be contacted at 703-816-4009.

Respectfully submitted,

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